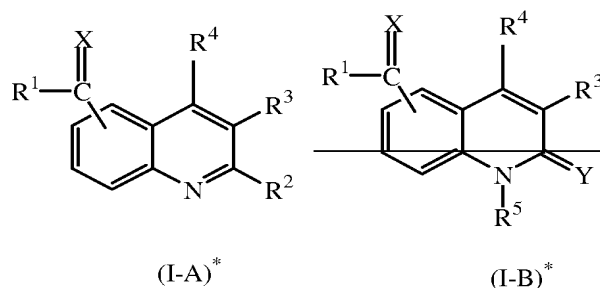


This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

1. (Currently Amended) A radiolabelled compound according to Formula (I-A)\* ~~or (I-B)\*~~

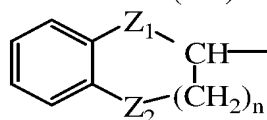


an *N*-oxide form, a pharmaceutically acceptable addition salt, a quaternary amine and a stereochemically isomeric form thereof, wherein

X represents O; ~~C(R<sup>6</sup>)<sub>2</sub> with R<sup>6</sup> being hydrogen, aryl or C<sub>1-6</sub>alkyl optionally substituted with amino or mono- or di(C<sub>1-6</sub>alkyl)amino; S or N R<sup>7</sup> with R<sup>7</sup> being amino or hydroxy;~~

R<sup>1</sup> represents C<sub>1-6</sub>alkyl; aryl; thienyl; quinolynyl; cycloC<sub>3-12</sub>alkyl or (cycloC<sub>3-12</sub>alkyl)C<sub>1-6</sub>alkyl, wherein the cycloC<sub>3-12</sub>alkyl moiety optionally may contain a double bond and wherein one carbon atom in the cycloC<sub>3-12</sub>alkyl moiety may be replaced by an oxygen atom or an NR<sup>8</sup>-moiety with R<sup>8</sup> being hydrogen, benzyl or C<sub>1-6</sub>alkyloxycarbonyl; wherein one or more hydrogen atoms in a C<sub>1-6</sub>alkyl-moiety or in a cycloC<sub>3-12</sub>alkyl-moiety optionally may be replaced by C<sub>1-6</sub>alkyl, hydroxyC<sub>1-6</sub>alkyl, haloC<sub>1-6</sub>alkyl, aminoC<sub>1-6</sub>alkyl, hydroxy, C<sub>1-6</sub>alkyloxy, arylC<sub>1-6</sub>alkyloxy, halo, C<sub>1-6</sub>alkyloxycarbonyl, aryl, amino, mono- or di(C<sub>1-6</sub>alkyl)amino, C<sub>1-6</sub>alkyloxycarbonylamino, halo, piperazinyl, pyridinyl, morpholinyl, thienyl or a bivalent radical of formula -O-, -O-CH<sub>2</sub>-O or -O-CH<sub>2</sub>-CH<sub>2</sub>-O-;

or a radical of formula (a-1)



a-1

wherein Z<sub>1</sub> is a single covalent bond, O, NH or CH<sub>2</sub>;  
 Z<sub>2</sub> is a single covalent bond, O, NH or CH<sub>2</sub>;

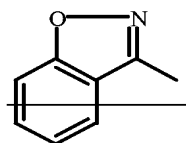
n is an integer of 0, 1, 2 or 3;

and wherein each hydrogen atom in the phenyl ring independently may optionally be replaced by halo, hydroxy, C<sub>1-6</sub>alkyl, C<sub>1-6</sub>alkyloxy or hydroxyC<sub>1-6</sub>alkyl;

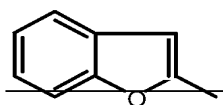
~~or X and R<sup>1</sup> may be taken together with the carbon atom to which X and R<sup>1</sup> are attached to form a radical of formula (b-1), (b-2) or (b-3);~~



b-1



b-2



b-3

R<sup>2</sup> represents hydrogen; halo; cyano; C<sub>1-6</sub>alkyl; C<sub>1-6</sub>alkyloxy; C<sub>1-6</sub>alkylthio; C<sub>1-6</sub>alkylcarbonyl; C<sub>1-6</sub>alkyloxycarbonyl; C<sub>1-6</sub>alkylcarbonyloxyC<sub>1-6</sub>alkyl; C<sub>2-6</sub>alkenyl; hydroxyC<sub>2-6</sub>alkenyl; C<sub>2-6</sub>alkynyl; hydroxyC<sub>2-6</sub>alkynyl; tri(C<sub>1-6</sub>alkyl)silaneC<sub>2-6</sub>alkynyl; amino; mono- or di(C<sub>1-6</sub>alkyl)amino; mono- or di(C<sub>1-6</sub>alkyloxyC<sub>1-6</sub>alkyl)amino; mono- or di(C<sub>1-6</sub>alkylthioC<sub>1-6</sub>alkyl)amino; aryl; arylC<sub>1-6</sub>alkyl; arylC<sub>2-6</sub>alkynyl; C<sub>1-6</sub>alkyloxyC<sub>1-6</sub>alkylaminoC<sub>1-6</sub>alkyl; aminocarbonyl optionally substituted with C<sub>1-6</sub>alkyl, C<sub>1-6</sub>alkyloxyC<sub>1-6</sub>alkyl, C<sub>1-6</sub>alkyloxycarbonylC<sub>1-6</sub>alkyl or pyridinylC<sub>1-6</sub>alkyl; a heterocycle selected from thienyl, furanyl, pyrrolyl, thiazolyl, oxazolyl, imidazolyl, isothiazolyl, isoxazolyl, pyrazolyl, pyridyl, pyrazinyl, pyridazinyl, pyrimidinyl, piperidinyl and piperazinyl, optionally N-substituted with C<sub>1-6</sub>alkyloxyC<sub>1-6</sub>alkyl, morpholinyl, thiomorpholinyl, dioxanyl or dithianyl; a radical -NH-C(=O)R<sup>9</sup> wherein R<sup>9</sup> represents C<sub>1-6</sub>alkyl optionally substituted with cycloC<sub>3-12</sub>alkyl, C<sub>1-6</sub>alkyloxy, C<sub>1-6</sub>alkyloxycarbonyl, aryl, aryloxy, thienyl, pyridinyl, mono- or di(C<sub>1-6</sub>alkyl)amino, C<sub>1-6</sub>alkylthio, benzylthio, pyridinylthio or pyrimidinylthio; cycloC<sub>3-12</sub>alkyl; cyclohexenyl; amino; arylcycloC<sub>3-12</sub>alkylamino; mono-or-di(C<sub>1-6</sub>alkyl)amino; mono- or di(C<sub>1-6</sub>alkyloxycarbonylC<sub>1-6</sub>alkyl)amino; mono- or di(C<sub>1-6</sub>alkyloxycarbonyl)amino; mono-or di(C<sub>2-6</sub>alkenyl)amino; mono- or di(arylC<sub>1-6</sub>alkyl)amino; mono- or diarylamino; arylC<sub>2-6</sub>alkenyl; furanylC<sub>2-6</sub>alkenyl; piperidinyl; piperazinyl; indolyl; furyl; benzofuryl;

tetrahydrofuryl; indenyl; adamantyl; pyridinyl; pyrazinyl; aryl;  
arylC<sub>1-6</sub>alkylthio or a radical of formula (a-1) ;

a sulfonamid -NH-SO<sub>2</sub>-R<sup>10</sup> wherein R<sup>10</sup> represents C<sub>1-6</sub>alkyl, mono- or poly  
haloC<sub>1-6</sub>alkyl, arylC<sub>1-6</sub>alkyl, arylC<sub>2-6</sub>alkenyl, aryl, quinolinyl, isoxazolyl or  
di(C<sub>1-6</sub>alkyl)amino;

R<sup>3</sup> and R<sup>4</sup> each independently represent hydrogen; halo; hydroxy; cyano; C<sub>1-6</sub>alkyl;  
C<sub>1-6</sub>alkyloxy; C<sub>1-6</sub>alkyloxyC<sub>1-6</sub>alkyl; C<sub>1-6</sub>alkylcarbonyl; C<sub>1-6</sub>alkyloxy carbonyl;  
C<sub>2-6</sub>alkenyl; hydroxyC<sub>2-6</sub>alkenyl; C<sub>2-6</sub>alkynyl; hydroxyC<sub>2-6</sub>alkynyl;  
tri(C<sub>1-6</sub>alkyl)silaneC<sub>2-6</sub>alkynyl; amino; mono- or di(C<sub>1-6</sub>alkyl)amino; mono- or di(C<sub>1-6</sub>  
alkyloxyC<sub>1-6</sub>alkyl)amino; mono- or di(C<sub>1-6</sub>alkylthioC<sub>1-6</sub>alkyl)amino; aryl;  
morpholinylC<sub>1-6</sub>alkyl or piperidinylC<sub>1-6</sub>alkyl ; or

R<sup>2</sup> and R<sup>3</sup> may be taken together to form -R<sup>2</sup>-R<sup>3</sup>-, which represents a bivalent radical of  
formula -(CH<sub>2</sub>)<sub>3</sub>-, -(CH<sub>2</sub>)<sub>4</sub>-, -(CH<sub>2</sub>)<sub>5</sub>-, -(CH<sub>2</sub>)<sub>6</sub>-, -CH=CH-CH=CH-,  
-Z<sub>4</sub>-CH=CH-, -CH=CH-Z<sub>4</sub>-, -Z<sub>4</sub>-CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>-, -CH<sub>2</sub>-Z<sub>4</sub>-CH<sub>2</sub>-CH<sub>2</sub>-,  
-CH<sub>2</sub>-CH<sub>2</sub>-Z<sub>4</sub>-CH<sub>2</sub>-,  
-CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>-Z<sub>4</sub>-, -Z<sub>4</sub>-CH<sub>2</sub>-CH<sub>2</sub>-, -CH<sub>2</sub>-Z<sub>4</sub>-CH<sub>2</sub>- or -CH<sub>2</sub>-CH<sub>2</sub>-Z<sub>4</sub>-, with Z<sub>4</sub> being O, S,  
SO<sub>2</sub> or NR<sup>11</sup> wherein R<sup>11</sup> is hydrogen, C<sub>1-6</sub>alkyl, benzyl or C<sub>1-6</sub>alkyloxy carbonyl; and  
wherein each bivalent radical is optionally substituted with C<sub>1-6</sub>alkyl.

or R<sup>3</sup> and R<sup>4</sup> may be taken together to form a bivalent radical of formula -CH=CH-CH=CH-  
or -CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>- ;

~~R<sup>5</sup> represents hydrogen; cycloC<sub>3-12</sub>alkyl; piperidinyl; oxo thienyl; tetrahydrothienyl;  
arylC<sub>1-6</sub>alkyl; C<sub>1-6</sub>alkyloxyC<sub>1-6</sub>alkyl; C<sub>1-6</sub>alkyloxy carbonylC<sub>1-6</sub>alkyl or C<sub>1-6</sub>alkyl  
optionally substituted with a radical C(=O)NR<sub>x</sub>R<sub>y</sub>, in which R<sub>x</sub> and R<sub>y</sub>, each  
independently are hydrogen, cycloC<sub>3-12</sub>alkyl, C<sub>2-6</sub>alkynyl or C<sub>1-6</sub>alkyl optionally  
substituted with cyano, C<sub>1-6</sub>alkyloxy, C<sub>1-6</sub>alkyloxy carbonyl, furanyl, pyrrolidinyl,  
benzylthio, pyridinyl, pyrrolyl or thienyl;~~

~~Y represents O or S;~~

~~or Y and R<sup>5</sup> may be taken together to form =Y-R<sup>5</sup>- which represents a radical of formula~~

~~-CH=N N= (e-1);~~

~~-N=N N= (e-2); or~~

~~-N-CH=CH (e-3);~~

aryl represents phenyl or naphthyl optionally substituted with one or more substituents  
selected from halo, hydroxy, C<sub>1-6</sub>alkyl, C<sub>1-6</sub>alkyloxy, phenyloxy, nitro, amino, thio, C<sub>1-6</sub>  
alkylthio, haloC<sub>1-6</sub>alkyl, polyhaloC<sub>1-6</sub>alkyl, polyhaloC<sub>1-6</sub>alkyloxy,

hydroxyC<sub>1-6</sub>alkyl, C<sub>1-6</sub>alkyloxyC<sub>1-6</sub>alkyl, aminoC<sub>1-6</sub>alkyl, mono-or di(C<sub>1-6</sub>alkyl)amino; mono-or di(C<sub>1-6</sub>alkyl)aminoC<sub>1-6</sub>alkyl, cyano, -CO-R<sup>12</sup>, -CO-OR<sup>13</sup>, -NR<sup>13</sup>SO<sub>2</sub>R<sup>12</sup>, -SO<sub>2</sub>-NR<sup>13</sup>R<sup>14</sup>, -NR<sup>13</sup>C(O)R<sup>12</sup>, -C(O)NR<sup>13</sup>R<sup>14</sup>, -SOR<sup>12</sup>, -SO<sub>2</sub>R<sup>12</sup>; wherein each R<sup>12</sup>, R<sup>13</sup> and R<sup>14</sup> independently represent C<sub>1-6</sub>alkyl; cycloC<sub>3-6</sub>alkyl; phenyl; phenyl substituted with halo, hydroxy, C<sub>1-6</sub>alkyl, C<sub>1-6</sub>alkyloxy, haloC<sub>1-6</sub>alkyl, polyhaloC<sub>1-6</sub>alkyl, furanyl, thienyl, pyrrolyl, imidazolyl, thiazolyl or oxazolyl;

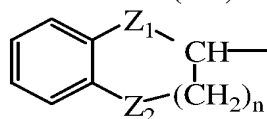
and when the R<sup>1</sup>-C(=X) moiety is linked to another position than the 7 or 8 position, then said 7 and 8 position may be substituted with R<sup>15</sup> and R<sup>16</sup> wherein either one or both of R<sup>15</sup> and R<sup>16</sup> represents C<sub>1-6</sub>alkyl, C<sub>1-6</sub>alkyloxy or R<sup>15</sup> and R<sup>16</sup> taken together may form a bivalent radical of formula -CH=CH-CH=CH-; wherein the radiolabelled compound has at least one halo which is a radioactive isotope of iodine, bromine, or fluorine, at least one <sup>11</sup>C atom, or at least one tritium atom.

2. (Currently Amended) The radiolabelled compound according to claim 1, wherein

X represents O; ~~C(R<sup>6</sup>)<sub>2</sub> with R<sup>6</sup> being hydrogen or aryl; or N-R<sup>7</sup> with R<sup>7</sup> being amino or hydroxy;~~

R<sup>1</sup> represents C<sub>1-6</sub>alkyl, aryl; thienyl; quinoliny; cycloC<sub>3-12</sub>alkyl or (cycloC<sub>3-12</sub>alkyl)C<sub>1-6</sub>alkyl, wherein the cycloC<sub>3-12</sub>alkyl moiety optionally may contain a double bond and wherein one carbon atom in the cycloC<sub>3-12</sub>alkyl moiety may be replaced by an oxygen atom or an NR<sup>8</sup>-moiety with R<sup>8</sup> being benzyl or C<sub>1-6</sub>alkyloxycarbonyl; wherein one or more hydrogen atoms in a C<sub>1-6</sub>alkyl-moiety or in a cycloC<sub>3-12</sub>alkyl-moiety optionally may be replaced by C<sub>1-6</sub>alkyl, haloC<sub>1-6</sub>alkyl, hydroxy, C<sub>1-6</sub>alkyloxy, arylC<sub>1-6</sub>alkyloxy, halo, aryl, mono- or di(C<sub>1-6</sub>alkyl)amino, C<sub>1-6</sub>alkyloxycarbonylamino, halo, piperaziny, pyridiny, morpholiny, thienyl or a bivalent radical of formula -O- or -O-CH<sub>2</sub>-CH<sub>2</sub>-O-;

or a radical of formula (a-1)



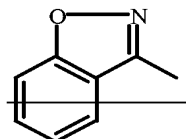
a-1

wherein Z<sub>1</sub> is a single covalent bond, O or CH<sub>2</sub>;  
Z<sub>2</sub> is a single covalent bond, O or CH<sub>2</sub>;  
n is an integer of 0, 1, or 2 ;

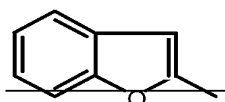
and wherein each hydrogen atom in the phenyl ring independently may optionally be replaced by halo or hydroxy;  
~~or X and R<sup>1</sup> may be taken together with the carbon atom to which X and R<sup>1</sup> are attached to form a radical of formula (b-1), (b-2) or (b-3);~~



b-1



b-2



b-3

R<sup>2</sup> represents hydrogen; halo; cyano; C<sub>1-6</sub>alkyl; C<sub>1-6</sub>alkyloxy; C<sub>1-6</sub>alkylthio; C<sub>1-6</sub>alkylcarbonyl; C<sub>1-6</sub>alkyloxycarbonyl; C<sub>2-6</sub>alkenyl; hydroxyC<sub>2-6</sub>alkenyl; C<sub>2-6</sub>alkynyl; hydroxyC<sub>2-6</sub>alkynyl; tri(C<sub>1-6</sub>alkyl)silaneC<sub>2-6</sub>alkynyl; amino; mono- or di(C<sub>1-6</sub>alkyl)amino; mono- or di(C<sub>1-6</sub>alkyloxyC<sub>1-6</sub>alkyl)amino; mono- or di(C<sub>1-6</sub>alkylthioC<sub>1-6</sub>alkyl)amino; aryl; arylC<sub>1-6</sub>alkyl; arylC<sub>2-6</sub>alkynyl; C<sub>1-6</sub>alkyloxyC<sub>1-6</sub>alkylaminoC<sub>1-6</sub>alkyl; aminocarbonyl optionally substituted with C<sub>1-6</sub>alkyloxycarbonylC<sub>1-6</sub>alkyl; a heterocycle selected from thienyl, furanyl, thiazolyl and piperidinyl, optionally N-substituted with morpholinyl or thiomorpholinyl; a radical -NH-C(=O)R<sup>9</sup> wherein R<sup>9</sup> represents C<sub>1-6</sub>alkyl optionally substituted with cycloC<sub>3-12</sub>alkyl, C<sub>1-6</sub>alkyloxy, C<sub>1-6</sub>alkyloxycarbonyl, aryl, aryloxy, thienyl, pyridinyl, mono- or di(C<sub>1-6</sub>alkyl)amino, C<sub>1-6</sub>alkylthio, benzylthio, pyridinylthio or pyrimidinylthio; cycloC<sub>3-12</sub>alkyl; cyclohexenyl; amino; arylcycloC<sub>3-12</sub>alkylamino; mono-or-di(C<sub>1-6</sub>alkyl)amino; mono- or di(C<sub>1-6</sub>alkyloxycarbonylC<sub>1-6</sub>alkyl)amino; mono- or di(C<sub>1-6</sub>alkyloxycarbonyl)amino; mono-or di(C<sub>2-6</sub>alkenyl)amino; mono- or di(arylC<sub>1-6</sub>alkyl)amino; mono- or diarylamino; arylC<sub>2-6</sub>alkenyl; furanylC<sub>2-6</sub>alkenyl; piperidinyl; piperazinyl; indolyl; furyl; benzofuryl; tetrahydrofuryl; indenyl; adamantyl; pyridinyl; pyrazinyl; aryl or a radical of formula (a-1); a sulfonamid -NH-SO<sub>2</sub>-R<sup>10</sup> wherein R<sup>10</sup> represents C<sub>1-6</sub>alkyl, mono- or poly haloC<sub>1-6</sub>alkyl, arylC<sub>1-6</sub>alkyl or aryl;

R<sup>3</sup> and R<sup>4</sup> each independently represent hydrogen; C<sub>1-6</sub>alkyl; C<sub>1-6</sub>alkyloxyC<sub>1-6</sub>alkyl; C<sub>1-6</sub>alkyloxycarbonyl; or

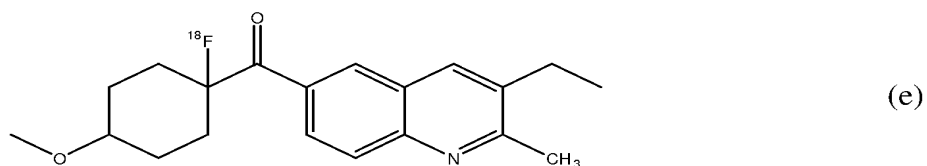
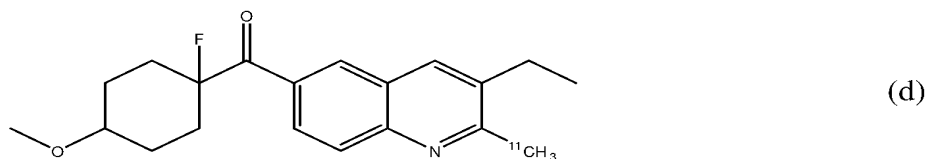
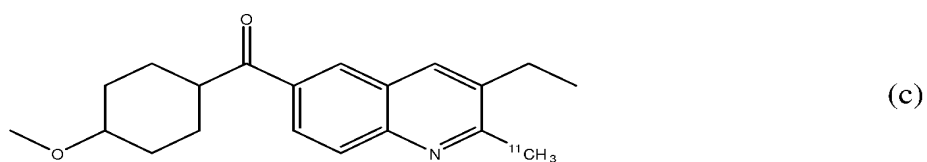
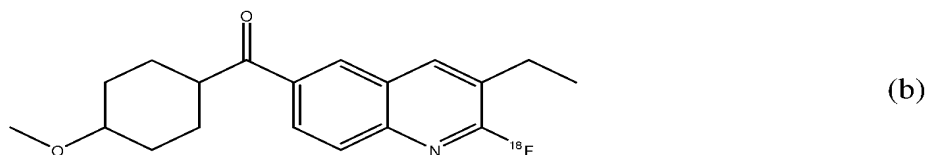
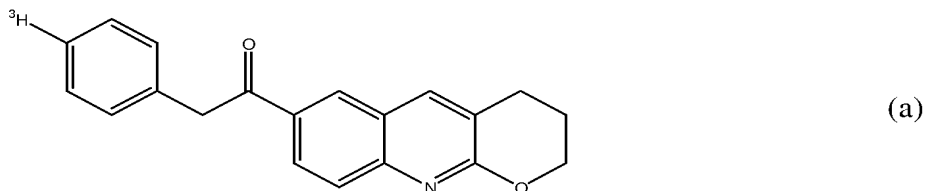
R<sup>2</sup> and R<sup>3</sup> may be taken together to form -R<sup>2</sup>-R<sup>3</sup>-, which represents a bivalent radical of formula -(CH<sub>2</sub>)<sub>4</sub>-, -(CH<sub>2</sub>)<sub>5</sub>-, -Z<sub>4</sub>-CH=CH-, -Z<sub>4</sub>-CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>- or -Z<sub>4</sub>-CH<sub>2</sub>-CH<sub>2</sub>-, with Z<sub>4</sub> being O, S, SO<sub>2</sub> or NR<sup>11</sup> wherein R<sup>11</sup> is hydrogen, C<sub>1-6</sub>alkyl, benzyl or

C<sub>1-6</sub>alkyloxycarbonyl; and wherein each bivalent radical is optionally substituted with C<sub>1-6</sub>alkyl;  
or R<sup>3</sup> and R<sup>4</sup> may be taken together to form a bivalent radical of formula -CH=CH-CH=CH-  
or -CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>- ;  
~~R<sup>5</sup> represents hydrogen; piperidinyl; oxo thienyl; tetrahydrothienyl; arylC<sub>1-6</sub>alkyl;  
C<sub>1-6</sub>alkyloxycarbonylC<sub>1-6</sub>alkyl or C<sub>1-6</sub>alkyl optionally substituted with a radical  
C(=O)NR<sub>x</sub>R<sub>y</sub>, in which R<sub>x</sub> and R<sub>y</sub>, each independently are hydrogen,  
cycloC<sub>3-12</sub>alkyl, C<sub>2-6</sub>alkynyl or C<sub>1-6</sub>alkyl optionally substituted with cyano,  
C<sub>1-6</sub>alkyloxy or C<sub>1-6</sub>alkyloxycarbonyl;~~  
~~Y represents O or S;~~  
or Y and R<sup>5</sup> may be taken together to form =Y R<sup>5</sup> which represents a radical of formula  
~~-CH=N N= (e 1); or  
-N=N N= (e 2);~~  
aryl represents phenyl or naphthyl optionally substituted with one or more substituents  
selected from halo, C<sub>1-6</sub>alkyloxy, phenyloxy, mono-or di(C<sub>1-6</sub>alkyl)amino and cyano;  
and when the R<sup>1</sup>-C(=X) moiety is linked to another position than the 7 or 8 position, then said  
7 and 8 position may be substituted with R<sup>15</sup> and R<sup>16</sup> wherein either one or both of R<sup>15</sup> and R<sup>16</sup>  
represents C<sub>1-6</sub>alkyl or R<sup>15</sup> and R<sup>16</sup> taken together may form a bivalent radical of formula  
-CH=CH-CH=CH-.

3. (Currently Amended) The radiolabelled compound according to claim 1, wherein,  
X represents O;  
R<sup>1</sup> represents C<sub>1-6</sub>alkyl; cycloC<sub>3-12</sub>alkyl or (cycloC<sub>3-12</sub>alkyl)C<sub>1-6</sub>alkyl, wherein one or more  
hydrogen atoms in a C<sub>1-6</sub>alkyl-moiety or in a cycloC<sub>3-12</sub>alkyl-moiety optionally may be  
replaced by C<sub>1-6</sub>alkyloxy, aryl, halo or thienyl;  
R<sup>2</sup> represents hydrogen; halo; C<sub>1-6</sub>alkyl or amino;  
R<sup>3</sup> and R<sup>4</sup> each independently represent hydrogen or C<sub>1-6</sub>alkyl; or  
R<sup>2</sup> and R<sup>3</sup> may be taken together to form -R<sup>2</sup>-R<sup>3</sup>-, which represents a bivalent radical of  
formula -Z<sub>4</sub>-CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>- or -Z<sub>4</sub>-CH<sub>2</sub>-CH<sub>2</sub>- with Z<sub>4</sub> being O or NR<sup>11</sup> wherein R<sup>11</sup> is  
C<sub>1-6</sub>alkyl; and wherein each bivalent radical is optionally substituted with  
C<sub>1-6</sub>alkyl;  
or R<sup>3</sup> and R<sup>4</sup> may be taken together to form a bivalent radical of formula  
-CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>- ;  
~~R<sup>5</sup> represents hydrogen;~~  
~~Y represents O; and~~

aryl represents phenyl optionally substituted with halo.

4. (Currently Amended) The radiolabelled compound according to claim 1, wherein, the R<sup>1</sup>-C(=X) moiety is linked to the quinoline ~~or quinoline~~ moiety in position 6.
5. (Canceled)
6. (Previously Presented) The radiolabelled compound according to claim 1, wherein the radioactive isotope is <sup>3</sup>H, <sup>11</sup>C or <sup>18</sup>F.
7. (Previously Presented) The radiolabelled compound according to claim 6, wherein the compound is any one of compounds (a), (b), (c), (d) and (e):

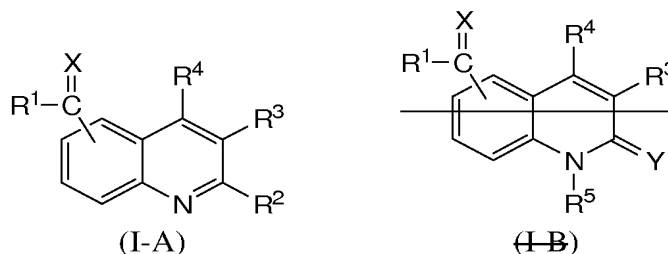


8. (Previously Presented) The radiolabelled compound according to claim 7, wherein the compound is compound (a).
9. (Currently Amended) A radioactive composition for administration to mammals for marking or identifying an mGlu1 receptor comprising ~~[[a]]~~ an therapeutically effective amount of a radiolabelled compound according to claim 1 and a pharmaceutically acceptable carrier or diluent.
10. (Canceled)
11. (Previously Presented) A diagnostic method for an detecting the presence of a mGlu1 receptor comprising  
administering a radiolabelled compound according to claim 1 to biological material;  
and  
detecting emissions from the radiolabelled compound.
12. (Canceled)
13. (Previously Presented) The method of claim 11 further comprising screening a test compound for the ability to occupy or bind to a mGlu1 receptor in the biological material.
14. (Previously Presented) The method of claim 11 wherein the biological material is a tissue sample, plasma fluid, body fluid, body part from a warm-blooded animal, or organ from a warm-blooded animal.
15. (Previously Presented) A diagnostic tool for marking or identifying an mGlu1 receptor in biological material, said tool comprising a radiolabelled compound according to claim 1.
16. (Canceled)
17. (Previously Presented) A diagnostic tool for screening whether a test compound has the ability to occupy or bind to a mGlu1 receptor in biological material, said diagnostic tool comprising a radiolabelled compound according to claim 1.
18. (Previously Presented) A method for imaging an organ comprising the steps of



- (a) administering a sufficient amount of a compound according to claim 1 to the organ; and
  - (b) detecting the emissions from the radioactive compound.
19. (Previously Presented) The method of claim 18 wherein the compound is administered *in vivo*.
20. (Previously Presented) The method of claim 18 wherein the compound is administered *in vitro*.
21. (Previously Presented) The method of claim 18 wherein the emissions are detected using Single Photon Emission Computed Tomography or Positron Emission Tomography.
22. (Previously Presented) The method of claim 18 wherein the organ is a brain.
23. (Previously Presented) A method for marking an mGlu1 receptor comprising the steps of
- (a) administering a compound according to claim 1 to biological material; and
  - (b) detecting the emissions from the radioactive compound.
24. (Previously Presented) The method of claim 23 wherein the compound is administered *in vivo*.
25. (Previously Presented) The method of claim 23 wherein the compound is administered *in vitro*.
26. (Previously Presented) The method of claim 23 wherein the emissions are detected using Single Photon Emission Computed Tomography or Positron Emission Tomography.
27. (Previously Presented) The method of claim 23 wherein the biological material is a tissue sample, plasma fluid, body fluid, body part from a warm-blooded animal, or organ from a warm-blooded animal.
28. (Previously Presented) A method of screening whether a test compound occupies or binds to an mGlu1 receptor in biological material comprising:
- (a) administering a compound according to claim 1 to biological material;
  - (b) administering the test compound to the biological material; and
  - (c) detecting the emissions from the radioactive compound.

29. (Previously Presented) The method of claim 28 wherein the emissions are detected using Single Photon Emission Computerized Tomography or Positron Emission Tomography.
30. (Previously Presented) The method of claim 28 wherein the biological material is a tissue sample, plasma fluid, body fluid, body part from a warm-blooded animal, or organ from a warm-blooded animal.
31. (Currently Amended) A method for marking an mGlu1 receptor comprising the steps of  
 (a) radiolabelling a compound according to Formula (I-A) ~~or (I-B)~~

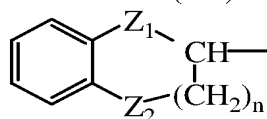


an *N*-oxide form, a pharmaceutically acceptable addition salt, a quaternary amine or a stereochemically isomeric form thereof, wherein

X represents O; ~~C(R<sup>6</sup>)<sub>2</sub> with R<sup>6</sup> being hydrogen, aryl or C<sub>1-6</sub>alkyl optionally substituted with amino or mono- or di(C<sub>1-6</sub>alkyl)amino; S or N R<sup>7</sup> with R<sup>7</sup> being amino or hydroxy;~~

R<sup>1</sup> represents C<sub>1-6</sub>alkyl; aryl; thienyl; quinoliny; cycloC<sub>3-12</sub>alkyl or (cycloC<sub>3-12</sub>alkyl)C<sub>1-6</sub>alkyl, wherein the cycloC<sub>3-12</sub>alkyl moiety optionally may contain a double bond and wherein one carbon atom in the cycloC<sub>3-12</sub>alkyl moiety may be replaced by an oxygen atom or an NR<sup>8</sup>-moiety with R<sup>8</sup> being hydrogen, benzyl or C<sub>1-6</sub>alkyloxycarbonyl; wherein one or more hydrogen atoms in a C<sub>1-6</sub>alkyl-moiety or in a cycloC<sub>3-12</sub>alkyl-moiety optionally may be replaced by C<sub>1-6</sub>alkyl, hydroxyC<sub>1-6</sub>alkyl, haloC<sub>1-6</sub>alkyl, aminoC<sub>1-6</sub>alkyl, hydroxy, C<sub>1-6</sub>alkyloxy, arylC<sub>1-6</sub>alkyloxy, halo, C<sub>1-6</sub>alkyloxycarbonyl, aryl, amino, mono- or di(C<sub>1-6</sub>alkyl)amino, C<sub>1-6</sub>alkyloxycarbonylamino, halo, piperazinyl, pyridinyl, morpholinyl, thienyl or a bivalent radical of formula -O-, -O-CH<sub>2</sub>-O or -O-CH<sub>2</sub>-CH<sub>2</sub>-O-;

or a radical of formula (a-1)



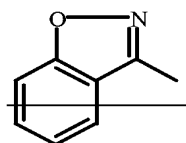
a-1

wherein  $Z_1$  is a single covalent bond, O, NH or  $CH_2$ ;  
 $Z_2$  is a single covalent bond, O, NH or  $CH_2$ ;  
 $n$  is an integer of 0, 1, 2 or 3;  
and wherein each hydrogen atom in the phenyl ring independently may optionally be replaced by halo, hydroxy,  $C_{1-6}$ alkyl,  $C_{1-6}$ alkyloxy or hydroxy $C_{1-6}$ alkyl;

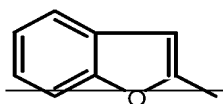
~~or X and  $R^+$  may be taken together with the carbon atom to which X and  $R^+$  are attached to form a radical of formula (b-1), (b-2) or (b-3);~~



b-1



b-2



b-3

$R^2$  represents hydrogen; halo; cyano;  $C_{1-6}$ alkyl;  $C_{1-6}$ alkyloxy;  $C_{1-6}$ alkylthio;  $C_{1-6}$ alkylcarbonyl;  $C_{1-6}$ alkyloxycarbonyl;  $C_{1-6}$ alkylcarbonyloxy $C_{1-6}$ alkyl;  $C_{2-6}$ alkenyl; hydroxy $C_{2-6}$ alkenyl;  $C_{2-6}$ alkynyl; hydroxy $C_{2-6}$ alkynyl; tri( $C_{1-6}$ alkyl)silane $C_{2-6}$ alkynyl; amino; mono- or di( $C_{1-6}$ alkyl)amino; mono- or di( $C_{1-6}$ alkyloxy $C_{1-6}$ alkyl)amino; mono- or di( $C_{1-6}$ alkylthio $C_{1-6}$ alkyl)amino; aryl; aryl $C_{1-6}$ alkyl; aryl $C_{2-6}$ alkynyl;  $C_{1-6}$ alkyloxy $C_{1-6}$ alkylamino $C_{1-6}$ alkyl; aminocarbonyl optionally substituted with  $C_{1-6}$ alkyl,  $C_{1-6}$ alkyloxy $C_{1-6}$ alkyl,  $C_{1-6}$ alkyloxycarbonyl $C_{1-6}$ alkyl or pyridinyl $C_{1-6}$ alkyl; a heterocycle selected from thienyl, furanyl, pyrrolyl, thiazolyl, oxazolyl, imidazolyl, isothiazolyl, isoxazolyl, pyrazolyl, pyridyl, pyrazinyl, pyridazinyl, pyrimidinyl, piperidinyl and piperazinyl, optionally N-substituted with  $C_{1-6}$ alkyloxy $C_{1-6}$ alkyl, morpholinyl, thiomorpholinyl, dioxanyl or dithianyl ; a radical  $-NH-C(=O)R^9$  wherein  $R^9$  represents  $C_{1-6}$ alkyl optionally substituted with cyclo $C_{3-12}$ alkyl,  $C_{1-6}$ alkyloxy,  $C_{1-6}$ alkyloxycarbonyl, aryl, aryloxy, thienyl, pyridinyl, mono- or di( $C_{1-6}$ alkyl)amino,  $C_{1-6}$ alkylthio, benzylthio, pyridinylthio or pyrimidinylthio; cyclo $C_{3-12}$ alkyl; cyclohexenyl; amino; arylcyclo $C_{3-12}$ alkylamino; mono-or-di( $C_{1-6}$ alkyl)amino; mono- or di( $C_{1-6}$ alkyloxycarbonyl $C_{1-6}$ alkyl)amino; mono- or di( $C_{1-6}$ alkyloxycarbonyl)amino; mono-or di( $C_{2-6}$ alkenyl)amino; mono- or

di(arylC<sub>1-6</sub>alkyl)amino; mono- or diarylamino; arylC<sub>2-6</sub>alkenyl;  
furanylC<sub>2-6</sub>alkenyl; piperididynyl; piperazinyl; indolyl; furyl; benzofuryl;  
tetrahydrofuryl; indenyl; adamantyl; pyridinyl; pyrazinyl; aryl;  
arylC<sub>1-6</sub>alkylthio or a radical of formula (a-1) ;

a sulfonamid -NH-SO<sub>2</sub>-R<sup>10</sup> wherein R<sup>10</sup> represents C<sub>1-6</sub>alkyl, mono- or poly  
haloC<sub>1-6</sub>alkyl, arylC<sub>1-6</sub>alkyl, arylC<sub>2-6</sub>alkenyl, aryl, quinolinyl, isoxazolyl or  
di(C<sub>1-6</sub>alkyl)amino;

R<sup>3</sup> and R<sup>4</sup> each independently represent hydrogen; halo; hydroxy; cyano; C<sub>1-6</sub>alkyl;  
C<sub>1-6</sub>alkyloxy; C<sub>1-6</sub>alkyloxyC<sub>1-6</sub>alkyl; C<sub>1-6</sub>alkylcarbonyl; C<sub>1-6</sub>alkyloxycarbonyl;  
C<sub>2-6</sub>alkenyl; hydroxyC<sub>2-6</sub>alkenyl; C<sub>2-6</sub>alkynyl; hydroxyC<sub>2-6</sub>alkynyl;  
tri(C<sub>1-6</sub>alkyl)silaneC<sub>2-6</sub>alkynyl; amino; mono- or di(C<sub>1-6</sub>alkyl)amino; mono- or di(C<sub>1-6</sub>  
alkyloxyC<sub>1-6</sub>alkyl)amino; mono- or di(C<sub>1-6</sub>alkylthioC<sub>1-6</sub>alkyl)amino; aryl;  
morpholinylC<sub>1-6</sub>alkyl or piperidinylC<sub>1-6</sub>alkyl ; or

R<sup>2</sup> and R<sup>3</sup> may be taken together to form -R<sup>2</sup>-R<sup>3</sup>-, which represents a bivalent radical of  
formula -(CH<sub>2</sub>)<sub>3</sub>-, -(CH<sub>2</sub>)<sub>4</sub>-, -(CH<sub>2</sub>)<sub>5</sub>-, -(CH<sub>2</sub>)<sub>6</sub>-, -CH=CH-CH=CH-,  
-Z<sub>4</sub>-CH=CH-, -CH=CH-Z<sub>4</sub>-, -Z<sub>4</sub>-CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>-, -CH<sub>2</sub>-Z<sub>4</sub>-CH<sub>2</sub>-CH<sub>2</sub>-,  
-CH<sub>2</sub>-CH<sub>2</sub>-Z<sub>4</sub>-CH<sub>2</sub>-,  
-CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>-Z<sub>4</sub>-, -Z<sub>4</sub>-CH<sub>2</sub>-CH<sub>2</sub>-, -CH<sub>2</sub>-Z<sub>4</sub>-CH<sub>2</sub>- or -CH<sub>2</sub>-CH<sub>2</sub>-Z<sub>4</sub>-, with Z<sub>4</sub> being O, S,  
SO<sub>2</sub> or NR<sup>11</sup> wherein R<sup>11</sup> is hydrogen, C<sub>1-6</sub>alkyl, benzyl or C<sub>1-6</sub>alkyloxycarbonyl; and  
wherein each bivalent radical is optionally substituted with C<sub>1-6</sub>alkyl.

or R<sup>3</sup> and R<sup>4</sup> may be taken together to form a bivalent radical of formula -CH=CH-CH=CH-  
or -CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>-CH<sub>2</sub>- ;

~~R<sup>5</sup> represents hydrogen; cycloC<sub>3-12</sub>alkyl; piperidinyl; oxo-thienyl; tetrahydrothienyl;  
arylC<sub>1-6</sub>alkyl; C<sub>1-6</sub>alkyloxyC<sub>1-6</sub>alkyl; C<sub>1-6</sub>alkyloxycarbonylC<sub>1-6</sub>alkyl or C<sub>1-6</sub>alkyl  
optionally substituted with a radical C(=O)NR<sub>x</sub>R<sub>y</sub>, in which R<sub>x</sub> and R<sub>y</sub>, each  
independently are hydrogen, cycloC<sub>3-12</sub>alkyl, C<sub>2-6</sub>alkynyl or C<sub>1-6</sub>alkyl optionally  
substituted with cyano, C<sub>1-6</sub>alkyloxy, C<sub>1-6</sub>alkyloxycarbonyl, furanyl, pyrrolidinyl,  
benzylthio, pyridinyl, pyrrolyl or thienyl;~~

~~Y represents O or S;~~

~~or Y and R<sup>5</sup> may be taken together to form =Y-R<sup>5</sup> which represents a radical of formula~~

~~-CH=N N= (e 1);~~

~~-N=N N= (e 2); or~~

~~-N-CH=CH (e 3);~~

aryl represents phenyl or naphthyl optionally substituted with one or more substituents

selected from halo, hydroxy, C<sub>1-6</sub>alkyl, C<sub>1-6</sub>alkyloxy, phenyloxy, nitro, amino, thio, C<sub>1-6</sub>alkylthio, haloC<sub>1-6</sub>alkyl, polyhaloC<sub>1-6</sub>alkyl, polyhaloC<sub>1-6</sub>alkyloxy, hydroxyC<sub>1-6</sub>alkyl, C<sub>1-6</sub>alkyloxyC<sub>1-6</sub>alkyl, aminoC<sub>1-6</sub>alkyl, mono-or di(C<sub>1-6</sub>alkyl)amino; mono-or di(C<sub>1-6</sub>alkyl)aminoC<sub>1-6</sub>alkyl, cyano, -CO-R<sup>12</sup>, -CO-OR<sup>13</sup>, -NR<sup>13</sup>SO<sub>2</sub>R<sup>12</sup>, -SO<sub>2</sub>-NR<sup>13</sup>R<sup>14</sup>, -NR<sup>13</sup>C(O)R<sup>12</sup>, -C(O)NR<sup>13</sup>R<sup>14</sup>, -SOR<sup>12</sup>, -SO<sub>2</sub>R<sup>12</sup>; wherein each R<sup>12</sup>, R<sup>13</sup> and R<sup>14</sup> independently represent C<sub>1-6</sub>alkyl; cycloC<sub>3-6</sub>alkyl; phenyl; phenyl substituted with halo, hydroxy, C<sub>1-6</sub>alkyl, C<sub>1-6</sub>alkyloxy, haloC<sub>1-6</sub>alkyl, polyhaloC<sub>1-6</sub>alkyl, furanyl, thienyl, pyrrolyl, imidazolyl, thiazolyl or oxazolyl;

and when the R<sup>1</sup>-C(=X) moiety is linked to another position than the 7 or 8 position, then said 7 and 8 position may be substituted with R<sup>15</sup> and R<sup>16</sup> wherein either one or both of R<sup>15</sup> and R<sup>16</sup> represents C<sub>1-6</sub>alkyl, C<sub>1-6</sub>alkyloxy or R<sup>15</sup> and R<sup>16</sup> taken together may form a bivalent radical of formula -CH=CH-CH=CH-;

- (b) administering the radiolabelled compound to biological material; and
- (c) detecting the emissions from the radiolabelled compound.

- 32. (Previously Presented) The method of claim 31 wherein the compound is administered to said biological material *in vivo*.
- 33. (Previously Presented) The method of claim 31 wherein the compound is administered to said biological material *in vitro*.
- 34. (Previously Presented) The method of claim 31 wherein the emissions are detected using Single Photon Emission Computerized Tomography or Positron Emission Tomography.
- 35. (Previously Presented) The method of claim 31 wherein the biological material is a tissue sample, plasma fluid, body fluid, body part from a warm-blooded animal, or organ from a warm-blooded animal.